



33980US
Serial No. 10/025,050

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE **RECEIVED**

In re Application of: Marvin M. Johnson et al.

NOV 03 2003

Serial No.: 10/025,050

Group Art Unit: 1764

TC 1700

Filed: 12/19/2001

Examiner: Nadine G. Norton

For: DESULFURIZATION OF MIDDLE DISTILLATE

DECLARATION UNDER 37 C.F.R. 1.131

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

1. I, Peter N. Slater, an inventor of the above-referenced patent application, make this declaration to establish actual reduction to practice of the claimed invention in the United States on a date prior to July 3, 2001, which is the effective date of U.S. Patent Application Number 6,254,766 to Sughrue et al. (hereinafter the Sughrue '766 patent) under 35 U.S.C. § 102(a). The Sughrue '766 patent was cited by the Examiner in the Office Action dated April 23, 2003.

2. Attached hereto is Exhibit A. Exhibit A is an internal Patent Idea form of Phillips Petroleum Company, now ConocoPhillips Company, prepared prior to July 3, 2001. Exhibit A evidences acts constituting conception and reduction to practice of the claimed invention. We do not wish to disclose the dates of these materials; therefore, the actual dates have been blocked out in Exhibit A. The acts evidenced by the materials of Exhibit A were performed in the United States prior to

July 3, 2001.

3. Page 1 of the Patent Idea specifically states the invention as claimed in the presently pending application. Further, the graphs on pages 1 and 3 of the Patent Idea represent and support the invention, as claimed, graphically.

I further declare that all statements made herein of my own knowledge are true; all statements made on information or belief are believed to be true; and these statements are made with the knowledge that willful, false statements and the like so made are punishable by fine, imprisonment, or both, under § 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of this application or any patent issuing thereon.

Peter N Slater

Peter N. Slater

Oct 22, 2003

Date

Attachment

PATENT IDEA RECORD

ELLIPS PETROLEUM COMPANY & SUBSIDIARIES

SUBJECT Vaporization of Diesel with Hydrogen at optimum conditions

Please identify earlier recordings and/or discussions of this invention which you can recall: Drawing (A) PATENT Notebook (or Diary) _____

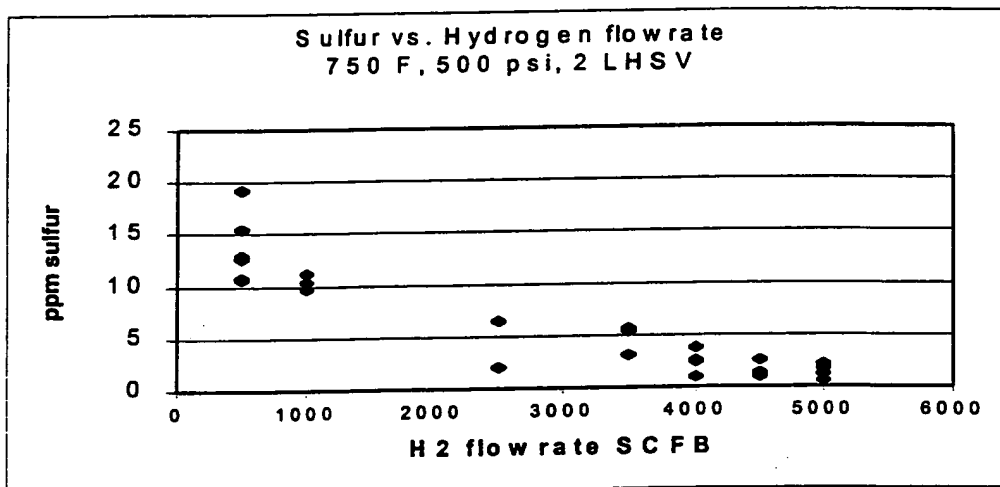
Correspondence _____ Work (or purchase) order(s) _____ **PATENT DIVISION**

Briefly describe the idea. Set forth its application, operation and novel features. A freehand sketch of the idea will be appreciated.

Is this patent idea in use? _____ If so, date of first usage _____ . If not, are there any plans to use it? _____

If the patent idea is a solution to a problem, please state the problem, describe the idea, and indicate how the idea solves the problem.

A novel and unobvious inventive process has been found to improve the performance of the low sulfur diesel reactor by operating at ideal conditions. The inventive operating conditions for the low sulfur diesel reactor are 750 °F, 2 LHSV, 500 PSIG and 5000 SCFB of hydrogen. The temperature and pressure of the process were fixed because any higher pressure would result in higher cost for the equipment and any higher temperature would result in the product being off specification due to color. Therefore, to overcome the color problem, the hydrogen rate was increased to 5000 SCFB. This represents a rate that is five times what is seen in normal hydrotreater process units. However, when these conditions were used on the S-Zorb reactor, sulfur-loading rate was increased by a factor of ten. The main reason the new conditions work is because the excess hydrogen completely vaporizes the feed (see attached graph) and the reduction of performance due to liquid pore filling of the catalyst is stopped. Thus, a vast increase in performance of the S-Zorb is observed when changing the process conditions. Below is a graph summarizing the experimental results that were observed by this novel and unique inventive process.



As one can see from the graph below, when the hydrogen was increased to 5000 SCFB, the performance of the S-Zorb increased substantially. Therefore, this represents a novel solution which accomplishes a performance increase with minimal capital improvements.

TNESS:

READ AND UNDERSTOOD BY:

DATE

PLEASE SIGN AND DATE, AS
INDICATED, AND SUBMIT TO
PATENT DIVISION.

SIGNATURE OF INVENTOR(S):

M M Johnson 449500 DATE _____
(ONE GIVEN NAME/ONE INITIAL/LAST NAME) (EMPLOYEE NO.)

354 PL Bartlesville _____
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Edward J Johnson 849469 DATE _____
(ONE GIVEN NAME/ONE INITIAL/LAST NAME) (EMPLOYEE NO.)

332 A PL Bartlesville _____
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Steron A OWEN 146888 DATE _____
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See Back
for Additional

Rm #1209 Kingwood Tex. Kingwood, S. S. Chemicals

WITNESS:

READ AND UNDERSTOOD BY:

SIGNATURE OF INVENTOR(S):

RCT

Peter N Slater 933034
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